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5 April 67

MEMORANDUM FOR THE RECORD

SUBJECT : [] Life Support Equipment Meeting

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1. A meeting was held at [] on 29 March 1967 to discuss [] Life Support equipment with the following participants.

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2. The meeting served a threefold purpose. First, a review and status report on the development of the S-1010 PPA, the ejection seat, parachute, seat kit, and support equipment was presented. Secondly, this review served to bring the [] representative up-to-date on [] position with respect to the [] life support systems. Finally, experiences with similar equipment at [] were discussed with [] so that problem areas needing resolution during development could be identified. The requirements for developmental and qualification testing were discussed and plans for final configuration meetings were tentatively established. The following paragraphs describe the items discussed.

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a. S-1010 Pilots Protective Assembly: The major design emphasis on the modifications of the S-901 J (SR-71) PPA to the S-101 (U-2R) PPA configuration has been to increase pilot comfort and reduce fatigue. By starting with the S-901 J PPA, the requirement for elaborate windblast, ejection, or parachute drop tests have been eliminated since the S-901 J PPA is qualified for much greater stresses than those which would be encountered in the U-2R's flight envelope. The majority of modifications to be included in the S-101 PPA have also been qualified in other pressure suit programs such as NASA's Gemini program, etc. Other than routine factory qualification testing, there remains to be answered only the question of how effective the proposed PPA will be in providing maximum comfort and fatigue

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25X1 prevention. This question can only be answered by actual experience. [] elaborated on several minor problems encountered on the S-901 J PPA which require attention during the development of the S-1010 PPA and which have already been discussed with David Clark Co.

25X1 b. Seat Kit: The seat kit/emergency oxygen supply which [] is obtaining specifications and costs on from [] will be basically the same as the SR-71 seat kit. 25X1 The only modifications included will be minor changes involving improved maintenance and servicing provisions. No developmental testing or escape system tests will be required since the seat kit has been fully qualified in these respects.

c. Parachute: No changes are required from the SR-71 configured parachute, which is fully qualified as a part of the SR-71 zero-zero to maximum speed/altitude escape system.

d. AGE: No changes in ground support and test equipment for the S-1010 PPA from that used on the S-901 J are anticipated.

25X1 e. Ejection Seat/System: Although the basic escape system [] proposes to use in the U-2R is the same as the SR-71 system, there are significant changes, modifications and additions required. One of the major problem areas to be resolved is the adequate and reliable functioning of the control column thruster. The control column must be cleared by the pilot's legs whether the primary or alternate ejection handle is used and whether or not through-the-canopy ejection occurs. Providing safe through-the-canopy ejection capability is a requirement to be met and will involve qualification tests also. Finally, a problem may exist with reference to proper fore-and-aft positioning of the ejection seat to meet the requirements for optimum positioning of the smallest size pilot without the use of spacers. [] 25X1 25X1

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3. It is anticipated that a follow-up meeting between [redacted] Life Support representatives will be scheduled for late April to finalize a list of qualification and test requirements as well as the final desired configuration of equipment to present to [redacted]. A meeting with [redacted] would be scheduled to follow for discussion of these combined requirements. [redacted] attendance at the latter meeting will be requested if this is determined to be required.

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ASD/R&D/OSA

ASD/OSA [redacted] (5 Apr 67)

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